



Cattle herding in the Nile Basin (PAC field team)

Strengthening South Sudan's Livestock Sector

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Introduction

Following the January 2011 referendum, South Sudan declared Independence on the 9th July and was welcomed as the 193rd Member State to the United Nations on 14th July 2011. South Sudan will therefore shortly celebrate its first decade of sovereignty. This Discussion Paper assesses livestock sector progress during the decade and offers opportunities for future investment.

South Sudan - An overview

At Independence, South Sudan's population was around 9.6 million, rising to 11.27 million today.ⁱ South Sudan is socially diverse and comprises more than 70 different language groups. Gross Domestic Product (GDP) at the time of Independence was around US\$ 1,900 per capita and hence significantly higher than its neighbours. Oil revenue however accounted for around US\$ 1,500 of Gross National Income,ⁱⁱ funded 98 percent of public sector revenue,ⁱⁱⁱ and supported thousands of public sector jobs. For those living beyond the oil fields and oil sector wealth, more than half lived below the international poverty line,^{iv} with extremely poor social indicators^v and dramatic gender disparities.

Rural life and livelihoods in South Sudan are primarily dependent on smallholder agriculture, fishing and forestry, complemented by the collection of wild foods, hunting and trading.^{vi} Smallholder agriculture is largely arable-based in South Sudan's Greenbelt, Ironstone, and Nile and Sobat river livelihood zones and more livestock-based in the East and West Floodplains, Hills and Mountains and Semi-Arid livelihood zones.^{vii} In the 1980s, South Sudan was a net exporter of agricultural produce and agriculture accounted for 40% of GDP. At Independence agriculture's importance had shrunk to 15% of GDP,^{viii} despite South Sudan's recognised potential to become Africa's breadbasket.^{ix}

Civil War erupted in December 2013. Temporarily halted in 2015, violence flared again in July 2016. Millions were displaced internally and beyond South Sudan's borders, and South Sudan became a net importer of food. The Consumer Price Index increased 480 percent and in 2017 a World Bank report suggested that South Sudan was on the brink of economic collapse.^x The Civil War was eventually brought to an end with the support of the Intergovernmental Authority on Development's High-level Revitalization Forum and the Cessation of Hostilities Agreement was signed in December 2017. In early 2020, the Transitional Unity Government returned South Sudan to a 10-state governance structure. In June 2020, State Governors were appointed for most States, to accelerate the transition process to a new Government, end violence,^{xi} and address the COVID-19 pandemic.^{xii}

The importance of livestock

Cattle, goats, sheep and poultry play a central role in subsistence livelihoods in a number of ways: *socio-cultural* - the basis for familial and extended social networks, bride wealth payments, wealth and status and payment for 'blood money' and other customary fines; *economic* - barter and sale, to supplement household income to meet household needs, in particular in response to crises; *nutritional* - animal-sourced protein includes milk, ghee, meat, blood and eggs;^{xiii xiv} and *natural* - manure enriches the soil and seasonal grazing improves rangeland biodiversity.

¹ Based on field work carried out in collaboration with Premium Agro Consults Ltd.

Following the aerial livestock census of 1976, various constant herd growth models have been used by the Ministry of Animal Resources and Fisheries (MARF) to produce livestock number estimates.^{xv} In 2011 these estimates were: 12 million cattle, 14 million goats and 13 million sheep,^{xvi} with huge numbers of poultry – chickens, ducks and turkeys. MARF also estimated that around 85 percent of all households owned some livestock.^{xvii} MARF data sets are however routinely questioned as no reference is made to the US\$ 2.7 billion of livestock raided and redistributed or exported during the Civil War,^{xviii} or the decades of poor-quality animal health services that resulted in high levels of livestock mortality.^{xix}

Understanding the livestock economy of South Sudan study^{xx}

Field work for the study on the South Sudan livestock economy was carried out in 2020 in five agro-pastoral and pastoral livelihood zones and the findings from a wealth ranking exercise are presented in Table 1. The table clearly shows the importance of livestock in local definitions of wealth and poverty.

Table 1: Wealth descriptions by different language groups

Livelihood zone	Wealth groups			
	'Wealthy'	'Average'	'Poor'	'Very poor'
Dinka ironstone plateau	Cattle: 500 Sheep/goats: 1,000	Cattle: 400 Sheep/goats: 70	Cattle: 2 Sheep/goats: 8 Chickens: Many	Virtually nothing
Toposa pastoral ^{xxi}	Cattle: many Sheep/goats: many	Cattle: many Sheep/goats:	Sheep/goats: some Chickens: Some	Cattle: 5 Shoats: 10 Chickens: Some
Dinka NW floodplain	Cattle: 800 Sheep/goats: 450	Cattle: 200 Sheep/goats: 150 Chickens: 20	Cattle: 5 Sheep/goats: 8 Chickens: 10	Sheep/goats: 3 Chickens: Some
Nuer NW Nile	Cattle: 300 Sheep/goats: 300	Cattle: 120 Sheep/goats: 120 Wives: 5	Cattle: 20 Sheep/goats: 20 Chickens: Some	Cattle: 4 Sheep/goats: 8 Chickens: Some
Nuer NE	Cattle: 240 Sheep/goats: 240	Cattle: 125 Sheep/goats: 150 Chickens: 80	Cattle: 40 Sheep/goats: 50 Chickens: 100	Cattle: 6 Sheep/goats: 35 Chickens: 75

During wealth ranking, participant comments were noted, and a selection is presented in Text box 1.

Text box 1: Selected participant comments during the wealth ranking exercises

- Historically, poor households were supported by wealthy relatives through livestock loans/ gifts. People without livestock migrate or take their own lives
- Cattle is the only measure of wealth
- A man from a very poor household may be assisted by a relative to marry, but his wife will leave him as he has nothing to keep her
- The war between Sudan and SPLA caused great poverty. Arabs raided cattle and the rich became poor. The Civil War then made us poorer
- Those who were rich before the Civil War are now supported by their children who work
- Some wealthy people who had thousands of cattle have lost so many to disease and the floods and to raids, that they have committed suicide

As part of the wealth ranking, the men's focus groups allocated households in the immediate area to the different wealth groups, and the scorings are presented in Table 2. On average, in the agro-pastoral zones 'poor' and 'very poor' were judged to account for between 60% and 70% of households, while the corresponding number fell to 34% in the pastoral zone. For the agro-pastoral zones, scores equate well with the Integrated Food Security Phase Classification January 2021 update that estimates some 7 million people, or 60% of the total population, face severe acute food insecurity in 2021.^{xxii}

Table 2: Average proportions for household wealth distribution (n=20 men's groups)

Wealth group	Dinka ironstone	Toposa pastoral	Dinka NW floodplain	Nuer NW Nile	Nuer NE
'Wealthy'	11	40	15	3	4
'Average'	28	26	18	37	26
'Poor'	44	21	31	28	30
'Very poor'	17	13	36	32	40
Total	100	100	100	100	100

There are also differences in the average scorings between the agro-pastoral and pastoral 'wealthy' categories, with a range of between 3% and 15% in the agro-pastoral and 40% in the pastoral livelihood groups. These differences reflect pastoralists' dependence on livestock and higher vulnerability to livestock-related shocks and hazards. Hence, pastoral households that have lost the majority of their livestock typically 'crash out' of the production system and move to towns or mining centres.^{xxiii xxiv} In contrast, agro-pastoralists can continue to survive in their livelihood system, by switching to more crop-based diets supplemented by food aid and food gifts from relatives and friends.

Livestock production constraints and sectoral investment opportunities

The men's groups identified and scored livestock production constraints in agro-pastoral and pastoral livelihood zones and aggregate scores are presented in Figure 1. Both the men's and the women's focus groups confirmed that these production constraints are widely regarded as the primary drivers of poverty. Insecurity - the Civil War and its medium and longer-term impacts, cattle raids (traditional and militarised), and 'blood money' compensation payments for killing while raiding - is recognised as the primary production constraint, followed by disease and floods. Household economic crises were ranked fourth. Further discussion with participants confirmed that economic crises were heavily influenced by insecurity. Added together, insecurity and economic crises scored more than twice the scores for livestock disease, the second highest scored variable. This underlines the importance of insecurity in South Sudan.

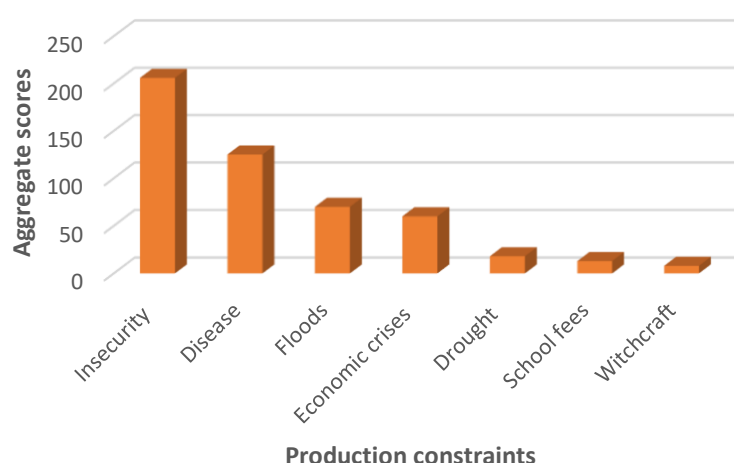


Figure 1: Livestock production constraints (n=20 men's groups)

Key informants (KI), including administrators, livestock sector professionals and private sector representatives operating in the livestock sector, were interviewed to triangulate the findings of the focus groups and to add professional and personal insights into livestock sector investment opportunities for the

period 2021-2030. Their responses are presented in Table 3. While there is strong congruence with perceived production constraints identified by focus groups, there are also differences.

Table 3: Recommended KI livestock sector investments

Sub-sector	Recommendation
Peace and security	<ul style="list-style-type: none"> - Investing in sustainable peace. This is <i>the most</i> important development investment - Disarmament of civilians
Animal health	<ul style="list-style-type: none"> - Training community animal health workers - Training in indigenous technical knowledge - disease identification and treatment - to extend animal health services to more remote and poorly serviced areas - Improved availability of approved livestock medicines - The recruitment of local veterinarians
Marketing of livestock and livestock products	<ul style="list-style-type: none"> - Improved milk handling, processing and storage equipment - pastoralists can increase their income from the sale of livestock products: milk, ghee, hides/ skins - Investment in livestock markets and construction of abattoirs - Commercialising milk sales
Rangeland management	<ul style="list-style-type: none"> - Improved rangeland management and water resources development which would support local fattening and increased prices - Grazing regulations to prevent conflict over water and pastures, and facilitated migrations - Codification of rangelands to prevent mining companies destroying rangelands - Drainage of swampy areas

Livestock Emergency Guidelines and Standards (LEGS)

The Livestock Emergency Guidelines and Standards (LEGS) offer the livestock sector a set of internationally recognized guidelines and standards for the design, implementation and evaluation of livestock programmes for people affected by crises.^{xv} LEGS emphasizes the need to protect livestock during emergencies and to help rebuild livestock assets afterwards, and recognizes the four protection principles: avoid causing harm; ensure access to impartial assistance; protect people from violence; and assist with rights claims, access to remedies and recovery from abuse.

The LEGS Handbook is structured around technical chapters on destocking, veterinary support, ensuring feed supplies, provision of water, livestock shelter, and provision of livestock/restocking. It also includes a number of Core Standards applicable to all livestock interventions. These have been adapted for the South Sudan context in Table 4.

Table 4: LEGS Core Standards

Core standard	Descriptions
Participation	Agro-pastoral and pastoral populations affected by crises are actively engaged in the assessment, design, implementation, monitoring and evaluation of livestock projects
Initial assessment and response identification	Initial assessment requires an understanding of the importance of the role of livestock in different livelihoods and a comprehensive appraisal of the operating context, which feeds into the identification of appropriate, conflict sensitive interventions
Technical analysis and intervention	Livestock interventions are based on sound technical and conflict sensitivity analysis and are implemented fairly, transparently and participatively
Monitoring and evaluation	Monitoring, evaluation and livelihoods analyses are conducted routinely for checking, course correction and the documentation of lessons learned
Policy and advocacy	Where possible, policy constraints are addressed to ensure effective implementation and support positive programme outcomes

Discussion

The South Sudan livestock economy study findings confirm that South Sudan receives significant livestock sector investment including the livestock emergencies sub-sector. Such investment is particularly valued by livestock keepers for whom livestock play a central role in their lives and livelihoods. With relatively few alternative livelihoods available to young men and women in South Sudan, it can be expected that livestock will continue to play a significant medium and long-term role. Furthermore, as with livestock keeping communities around the world, even with attractive alternatives considerable numbers of people prefer to remain in the livestock economy, provided they have adequate livestock holdings to meet their basic needs.

This Discussion Paper endorses the good work being done in the livestock sector in South Sudan, in particular programming that is compliant with LEGS core standards. Donor support for agencies involved in and committed to the delivery of compliant livestock programming is of central importance not only for the development of good livestock sector practice but, as importantly, for meeting livestock keepers' primary needs and interests.

Key areas for investment support, based on the study participants' priorities, are presented here, using the LEGS Core Standards as a framework:

LEGS Core Standard

Key areas for investment support

Participation

It is important to engage agro-pastoral and pastoral populations in the design, implementation, monitoring and evaluation of livestock projects, including representatives from different wealth groups. Some agencies have extended this core standard to include pro-poor representation in order to ensure investment in the livestock sector meets the particular needs of women, 'poor' and 'very poor' households, IDPs and - in neighbouring countries - refugees. For example, projects that focus on poultry and small ruminants are more likely to ensure more equitable and sustainable benefits for disadvantaged groups.

It is particularly important to engage in and develop a dialogue with and between cattle camp leaders and elders, with a view to facilitating: a return to codified cultural frameworks that protect women and children; the phased and equitable disarmament of heavy weapons as a first step to the wider control of small arms and militias; and the capping and phased reduction in bride price payments.

Initial assessment and response identification

The study findings confirm that conflict is the primary constraint to sustainable livestock development. Initial assessment and response identification for livestock projects, programmes and indeed strategies therefore needs to be conflict appropriate. While conflict and its impacts are common to all areas, there are location differences, and it may be therefore that opportunities are afforded in some area that are denied in others. Exploiting these differences is important if appropriate responses are to be identified at both the locational and wealth category levels.

Where conflict is less of a threat, increased investment support can be provided for community-based animal health delivery systems as a means to address animal health, which study participants ranked as the second most important threat to sustainable livestock production. Where possible and appropriate targeted support for young men interested to pursue skills development in animal health, as an alternative to cattle raiding.

It is important that all livestock investments are informed by sound technical knowledge and local experience and lessons learned in the delivery of livestock projects at individual state level, in particular those affected by high incidences of conflict. Possible intervention areas include the following:

- **Destocking** - informed by livestock market and livestock-cereals terms of trade monitoring and analysis, increased support for destocking (both commercial and slaughter destocking) during times of crisis, to mitigate distress livestock sales, stabilise livestock prices and protect agro-pastoral and pastoral livelihoods. In particular, expanded support for poorer households through targeted destocking of small ruminants and poultry.
- **Veterinary support** - the detailed mapping of former and current decentralised animal health delivery services - community animal health workers (CAHWs) and private veterinary pharmacy networks (PVP) - to identify and address gaps and weaknesses. To improve the delivery of efficacious veterinary medicines and phase out and replace the distribution of free livestock medicines with voucher-schemes implemented through local service providers. Also deliver reliable, seasonal vaccination campaigns through local animal health service providers and strengthen indigenous technical knowledge (ITK) networks to research, document and promote the use of efficacious treatments in particular for poultry and small ruminants.
- **Livestock feeding** - specifically rangeland management issues that threaten viable livestock production systems. Priorities may include work with cattle camp leaders, elders and administrators to develop local agreements that facilitate seasonal transhumance movements and eventually to develop a legal transhumance framework to protect routes and ensure the continued passage of livestock between wet and dry season rangelands. Agreements will need to resolve outstanding local conflicts and include mechanisms to resolve issues as they occur.

Other priority investments may include community commitments to protect key rangelands from agricultural development and better management of seasonal grazing - resting rangelands for recovery. Where appropriate, the control of invasive species and re-seeding with locally important rangeland plant species.
- **Livestock water** - the participatory mapping of livestock grazing and water points in wet and dry season grazing areas with the full and active representation of all groups with recognised customary rights. Priority investment for rainwater harvesting systems that prevent year-round grazing and the establishment of permanent settlements, protect key rangeland resources and can be maintained by the communities themselves.
- **Livestock provision** – informed by a detailed review of the lessons learned in previous livestock provision or restocking projects. Priorities for investment should be on community-led initiatives that include community contributions, albeit modest in size. In this way, the provision of livestock can help strengthen social capital and reinvigorate personal networks, that have been progressively undermined by the conflict.

Technical analysis and intervention

Monitoring and evaluation

Livelihood projects and changing livelihood contexts in which they operate should be routinely monitored, in order that projects with donors can support informed course correction and respond to changing threats and opportunities. It is also important that implementing agencies are supported to review, evaluate and document lessons learned objectively.

Policy and advocacy

The priority policy and advocacy challenge for the livestock sector in South Sudan is improved governance to address conflict, insecurity and cattle raiding. In this context, it is important to develop and use locally appropriate delivery strategies that ensure good practice and good returns on investment.

Coordination

The establishment of a coordination facility can provide objective and independent learning support to implementing partners. This will require the identification of an appropriate organisation that has the confidence and support of the different stakeholders, with the capacity to develop a common vision and specific objectives, organise regular coordination events, provide a communication function, and commission research, learning and documentation.

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Endnotes

- i Worldometer. (2021).
- ii Gross National Income is a measure of all national income from within and beyond the country.
- iii Government of South Sudan. (2011).
- iv Ibid.
- v Adult literacy was 27% (compared with 87% in Kenya); under 50% of primary children were in school and only 37% of girls; only 2% of school children completed primary – the lowest in the world; infant mortality rate in 2006 was 102 per 1000 live births; the maternal mortality rate was 2,054 per 100,000 live births, the highest in the world (c.f. 530 in Kenya and 430 in Uganda); and child wasting was 21% (again the highest in the world). Guvele et. al. (2013).
- vi Government of South Sudan. (2011).
- vii Ibid.
- viii The IGAD Centre for Pastoral Areas and Livestock Development (2015) estimated that unrecorded livestock sector GDP was worth an additional 40 percent of official estimates.
- ix Food and Agriculture Organisation of the United Nations. (2019).
- x World Bank. (2017).
- xi The breakdown of the 2015 ceasefire resulted in heavy fighting with villages destroyed, communities displaced and shocking reports of sexual violence against women.
- xii Mweba. (2020).
- xiii African Development Bank Group. (2013).
- xiv Agriculture and Livestock Task Force. (2011).
- xv Behnke et. al. (2012).
- xvi The largest livestock holdings per capita in Africa. Food and Agriculture Organisation. (undated).
- xvii African Development Bank Group. (2013).
- xviii Babikir et. al. (2019).
- xix Catley. (2018).
- xx The ‘Understanding the Livestock Economy in South Sudan’ study was commissioned by the East Africa Research Fund (EARF) and will help inform contemporary investment choices in the livestock sector.
- xxi The Toposa pastoralists interviewed were reluctant to provide livestock numbers and chose to speak instead in general terms.
- xxii United Nations Children’s Fund. (2021).
- xxiii Ibid.
- xxiv There are an estimated 600,000 people are involved in artisanal gold mining at some level in Equatoria. Cordaid. (2016).
- xxv LEGS. (2014).

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